

Remarks

Claims 1-6 and 8-13 are pending in the subject application. Favorable consideration of the pending claims is respectfully requested.

Claims 1-6 and 8-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Lowe *et al.* (WO 95/26499). The applicants respectfully traverse this ground for rejection because the cited reference does not teach or suggest the claimed invention.

The Office Action indicates that Lowe *et al.* disclose agar or agarose as a growth medium. However, the applicants respectfully submit that these components, in the context of the Lowe *et al.* disclosure, function only as holographic support media and are not examples of a growth medium. As is known in the art, a holographic support medium performs quite a different function than a growth medium. The present invention requires the presence of a growth medium.

The Office Action states that it would have been obvious to modify the method and device disclosed by Lowe *et al.* to arrive at the claimed method. However, no reason is given as to why a skilled artisan would have modified the Lowe *et al.* method to include introducing a growth medium and immobilizing a cell. The applicants acknowledge the Examiner's statement regarding result-effective adjustment of particular conventional working conditions; however, immobilizing a cell and introducing a growth medium are crucial to the claimed method and are quite different from any steps that could be arrived at by result-effective adjustment of the methods of Lowe *et al.*

In fact, the nature of the Lowe *et al.* sensor is such that any immobilization of cells on it would have a substantial effect on the properties of the sensor and severely limit the sensor's ability to function properly. Lowe *et al.* disclose detecting a species that is reactive with a substance disposed throughout the sensor by varying an optical property as a result of the reaction of the species (see, for example, Abstract). Immobilization of a cell could interfere with such a reaction and make the sensor inoperable for its intended use. If a proposed modification would render the (purported) prior art invention being modified unsatisfactory for its intended purpose, then a skilled artisan would not have had a reason to make the proposed modification. §2143.01(V); *Eisai v. Dr. Reddy's*, 2007-1397 and -1398 (Fed. Cir., decided July 21, 2008); *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). At the very least, the applicants submit that a skilled artisan would not have had a reasonable expectation of success in making such a modification to the Lowe sensor.

Lowe *et al.* could even be said to teach away from immobilizing a cell, and the Supreme Court has stated that “when the (purported) prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007).

The present invention exploits the realization that a holographic sensor can be used to detect an indirect product of a cell’s immobilization. Immobilization of the cell ensures localization of the cell but is distinct from the sensor. As such, the subject invention provides a degree of flexibility not provided by Lowe *et al.* since the cell can be separate from the sensor, though part of the same device.

Moreover, the applicants respectfully point out that the Office Action has not addressed the limitation that that sensor is sensitive to a product of the cell’s growth. This novel and advantageous feature of the claimed invention is not discussed or even contemplated by Lowe *et al.* In fact, the applicants submit that such a feature would not have been associated with the Lowe *et al.* sensor without the benefit of applicants’ own disclosure. Hindsight reconstruction of the prior art cannot support a §103 rejection, as was specifically recognized by the CCPA in *In re Spinnoble*, 56CCPA 823, 160 USPQ 237, 243 (1969).

As discussed above, the cited reference is missing certain elements of the claimed invention. Specifically, there is no disclosure in Lowe *et al.* of introducing a growth medium or of a sensor that is sensitive to a product of a cell’s growth. Additionally, no reason is given as to why a skilled artisan would have modified the Lowe *et al.* reference to arrive at the subject invention. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under §103(a).

In view of the foregoing remarks and the amendments to the claims, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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